

**REMARKS**

Favorable reconsideration of this application, in view of the above amendments and in light of the following remarks and discussion, is respectfully requested.

Claims 2, 4, 6, 7, and 9 are currently pending in the application; Claims 6 and 9 having been amended by way of the present response.

Claims 4 and 9 were indicated as being allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claim 9 has been rewritten in independent form including all of the limitations of base Claim 6 and intervening Claim 7, and therefore Claim 9 is in condition for allowance.

In the outstanding Office Action, Claim 2 was rejected under 35 U.S.C. 102(b) as being anticipated by "Admitted Prior Art" (hereinafter referred to as "APA"). For the reasons discussed below, the Applicant traverses the anticipation rejection.

The Applicants note that the Official Action does not expressly indicate what "Admitted Prior Art" the Official Action is referring to in the anticipation rejection. However, it appears that the Official Action is referring to the configuration depicted in Figures 2A and 2B. The Applicants note that the depictions in Figures 2A and 2B are referred to merely as "Related Art" in the specification. (See page 1, line 16.)

In the Office Action, the APA is indicated as anticipating independent Claim 2. However, the Applicants note that a claim is anticipated only if each and every element as set forth in the claims is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Bros. v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). As will be demonstrated below, the APA clearly does not meet each and every limitation of independent Claim 2.

Claim 2 of the present application expressly recites a fuel assembly comprising, among other features, a thimble screw locked to the bottom nozzle at a seat with a rotation preventive pin to connect the control rod guide tubes to the bottom nozzle, the thimble screw comprising a drain hole, and a coolant collision portion at a drain hole side of the rotation preventing pin against which the coolant flowing from the distal end toward the spot facing hole collides in order to increase pressure drop of the coolant during the scram mode. The Applicants submit that the APA does not disclose a coolant collision portion that increases pressure drop of the coolant during the scram mode.

The Official Action cites pin (17) as the coolant collision portion, however, the Applicants note that the specification clearly indicates that “[t]he rotation preventive pin 17 does not interfere with the flow of the coolant flowing into the drain hole 15 in the direction P.” (Page 4, lines 14-16.) Thus, pin (17) alone does not provide a coolant collision portion as expressly recited in Claim 2 of the present application. Accordingly, Claim 2 is not anticipated by the APA, and therefore the Applicants respectfully request the withdrawal of the anticipation rejection of Claim 2.

Furthermore, the Applicants submit that the APA does not suggest such a feature absent the improper application of hindsight considerations. Recognizing, after the fact, that a modification of the prior art would provide an improvement or advantage, without suggestion thereof by the prior art, rather than dictating a conclusion of obviousness, is an indication of improper application of hindsight considerations. Simplicity and hindsight are not proper criteria for resolving obviousness.

Claims 6 and 7 were rejected under 35 U.S.C. 103(a) as being unpatentable over APA in view of Jabsen (U.S. Patent No. 3,828,868). For the reasons discussed below, the Applicants request the withdrawal of the obviousness rejection.

The basic requirements for establishing a *prima facie* case of obviousness as set forth in MPEP 2143 include (1) there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings, (2) there must be a reasonable expectation of success, and (3) the reference (or references when combined) must teach or suggest all of the claim limitations. The Applicants submit that a *prima facie* case of obviousness cannot be established in the present case because the cited references, either when taken singularly or in combination, do not teach or suggest all of the limitations recited in Claim 6.

Claim 6 of the present application advantageously recites a fuel assembly comprising, among other features, a thimble screw comprising a drain hole having a first large inner diameter portion at a distal end side, a second large inner diameter portion at a seat side, and a small inner diameter portion between the first and the second large inner diameter portions. The Applicants submit that the cited references, either when taken singularly or in combination, do not teach or suggest all of the above limitations.

The APA depicts a drain hole (15) that has a constant diameter along the length thereof. The Jabsen reference describes a guide tube (12) that has a threaded shank portion (21) that has a passage extending therethrough. The passage has a large diameter portion leading to a small diameter portion. However, neither of the references, either when taken singularly or in combination, teach or suggest a drain hole having a first large inner diameter

Application Serial No.: 10/673,248  
Reply to Office Action of June 6, 2005

portion at a distal end side, a second large inner diameter portion at a seat side, and a small inner diameter portion between the first and the second large inner diameter portions, as recited in Claim 6 of the present application.

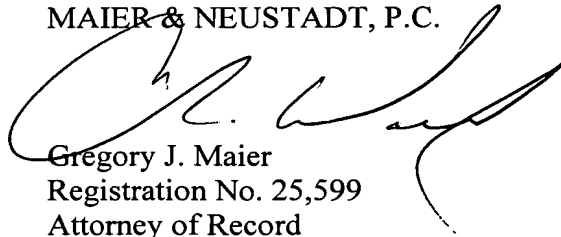
Since a *prima facie* case of obviousness cannot be established in the present case for Claim 6, the Applicants respectfully request the withdrawal of the obviousness rejection of Claim 6.

Claim 7 is considered allowable for the reasons advanced for Claim 6 from which it depends. This claim is further considered allowable as it recites other features of the invention that are neither disclosed nor suggested by the applied references when those features are considered within the context of Claim 6.

Consequently, in view of the above discussion, it is respectfully submitted that the present application is in condition for formal allowance and an early and favorable reconsideration of this application is therefore requested.

Respectfully Submitted,

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